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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/566,067

01/26/2006

Pascal Diss

BDL-494XX

2032

207 7590 05/25/2010
WEINGARTEN, SCHURGIN, GAGNEBIN & LEOVICI LLP
TEN POST OFFICE SQUARE
BOSTON, MA 02109

EXAMINER

MURATA, AUSTIN

ART UNIT

PAPER NUMBER

1712

MAIL DATE

DELIVERY MODE

05/25/2010

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

DETAILED ACTION

The amendment filed 3/26/2010 has been entered and fully considered. Claims 1-14 are pending of which claims 9-11 and 14 are withdrawn. The amendment to claim 1 is supported by the original disclosure.

This action is FINAL.

Election/Restrictions

Applicant's election with traverse of claims 1-8 **and 12-13** in the reply filed on 11/23/2009 is acknowledged. The traversal is on the ground(s) that examination could be made without serious burden. This is not found persuasive because serious examining burden is not the only standard for restriction requirements. In addition applicant argues that the common technical feature is not taught by NORA et al. (US 6,228,424). The common technical feature is not special, see rejection to claim 1.

The requirement is still deemed proper and is therefore made FINAL.

Response to Amendment

The amendments to claim 1 find support in page 2 line 23 through page 3 line 2 and page 3 lines 21-22.

Response to Arguments

Applicant's arguments, see remarks, filed 3/26/2010, with respect to the rejection(s) of claim(s) 1-8 and 12-13 under 102(b) have been fully considered and are persuasive in light of the amendment. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of DE NORA (US 6,228,424) and MOREL (US 5,420,084).

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Applicant argues that MOREL (US 5,420,084) does not teach using an metal phosphate in solution with titanium diboride in powder form as a single composition. The examiner agrees as the MOREL reference teaches applying a titanium diboride layer separate from an undercoating in the examples. However, DE NORA teaches using the limitation, see rejection to claim 1.

Applicant argues that MOREL teaches away by stating the use of titanium diboride is not preferred. However, the reference does positively teach the use of titanium diboride as a functional protective material used in the prior art. The reference does not "teach away" by teaching that it is not the most preferred embodiment.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 3, 4 and 5 are rejected under 35 U.S.C. 102(b) as being anticipated by DE NORA (US 6,228,424).

Regarding claim 1,

DE NORA teaches protecting a carbon component (composite material containing carbon) from oxidation by impregnation, see **abstract**. The reference further teaches providing a treating liquid (impregnation composition) of phosphates of aluminum (metal phosphate) **column 4 lines 12-13**. The reference also teaches for certain applications the impregnation liquid can include particulate refractory boride such as TiB₂ see **column 4 lines 44-47**. The

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liquid is referred to as an impregnation coating (impregnating with impregnation composition)

column 4 line 45.

Regarding claim 3,

DE NORA defines the TiB_2 as a particulate refractory boride **column 4 line 46** (contains a refractory solid filler).

Regarding claims 4,

DE NORA also teaches another particle in the treating liquid **column 4 lines 35-37** of silica **column 4 line 41.**

Regarding claim 5,

DE NORA teaches using aluminum phosphate in **column 4 line 14.**

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

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Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over DE NORA (US 6,228,424).

Regarding claim 6,

DE NORA teaches a treating solution contains water, **column 3 line 35**, metal phosphates, **column 4 lines 12-13**, titanium boride, **column 4 line 47**, and particles (solid refractory filler other than TiB_2), **column 4 lines 35-43**. The reference is silent to the weight percentages used. Each component must have a range of 0-100%. The claimed ranges are an optimization discovered by routine experimentation. In addition, there is no evidence of criticality of the claimed ranges, MPEP 2144.05 II.

At the time of the invention it would have been prima facie obvious to one of ordinary skill in the art to use the claimed ranges as an optimization or ranges.

Claims 2, 7, 8, 12 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over DE NORA (US 6,228,424) in view of MOREL (US 5,420,084).

Regarding claim 2,

DE NORA teaches a treating solution for protecting a carbon containing part but does not expressly teach the titanium boride having a particle size in the range of 0.1 μ m to 200 μ m. However, MOREL teaches a oxidation protecting coating that uses zirconium diboride particles of 10 to 40 microns, see **column 2 lines 25-26**. The reference also teaches zirconium diboride can be used in the place of titanium diboride, **column 2 lines 54-56**. As an equivalent boride powder is being used for the same purpose, at the time of the invention it would have been prima facie obvious to one of ordinary skill in the art to use the same particle size in the powder of titanium diboride and zirconium diboride.

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Regarding claim 7 and 8,

DE NORA teaches a protective coating from oxidation according to the limitations of claim 1 but does not expressly teach the preliminary step of impregnating with a wetting agent. However, MOREL teaches a protective coating from oxidation that includes using an adhesive underlayer. In example 3 **column 5 line 37-42** zinc phosphate was pretreated followed by direct heating. At the time of the invention it would have been prima facie obvious to one of ordinary skill in the art to include a preliminary stage of treating and drying to improve adhesion, see **column 2 line 14**. The zinc phosphate did not have any solid filler.

Regarding claim 12,

DE NORA also teaches another particle in the treating liquid **column 4 lines 35-37** of silica **column 4 line 41**.

Regarding claim 13,

DE NORA teaches the limitations of claim 12, in addition to teaching using refractory solid filler of silica, see claim 4. The reference further teaches using aluminum phosphate, see claim 5. The reference does not expressly teach the composition weight percentage or using an under coating. However, at the time of the invention it would have been prima facie obvious to use the weight percentage ranges as an optimization of ranges, see rejection to claim 6.

In addition it would have been prima facie obvious to one of ordinary skill in the art to use the undercoating/pretreating of metal phosphate with no filler, see rejection to claims 7 and 8.

Conclusion

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Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to AUSTIN MURATA whose telephone number is (571)270-5596. The examiner can normally be reached on Monday through Friday 9:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, MICHAEL CLEVELAND can be reached on (571)272-1418. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/AUSTIN MURATA/
Examiner, Art Unit 1712

/Barbara L. Gilliam/
Supervisory Patent Examiner, Art Unit 1710